

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

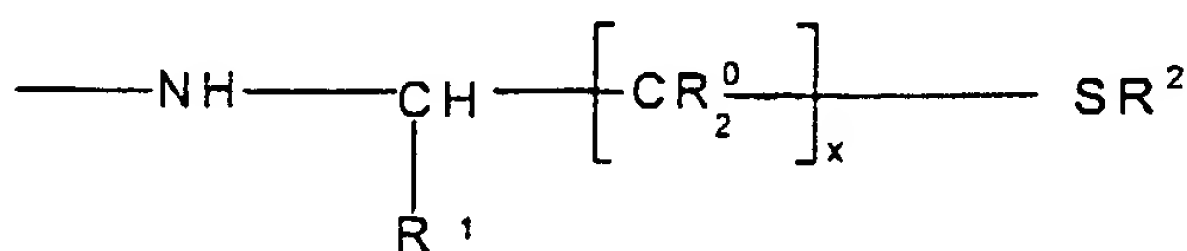
1-34 (canceled)

35. (Previously Presented) A modified collagenic peptide comprising grafted free or substituted thiol functions borne by mercaptoamino residues, wherein:

- the mercaptoamino residues are identical to or different than each other and are exclusively grafted onto the aspartic acids and glutamic acids of the collagenic chain via amide bonds, and
- said collagenic peptide is soluble in aqueous media and/or in polar solvents.

36. (Previously Presented) The collagenic peptide according to claim 35, wherein at least a fraction of the mercaptoamino residues, exclusively grafted onto the carboxylic acids of the aspartic acids and glutamic acids, correspond to formula (I):

FORMULA (I)



in which

- $x = 1$ or 2 ;
- $\text{R}^0 = \text{H}$ or CH_3 ;

- R^1 represents H or COOR^3 with R^3 corresponding to an aliphatic, aromatic or alicyclic radical; and
- R^2 is an aliphatic and/or alicyclic and/or aromatic radical.

37. (Previously Presented) The collagenic peptide according to claim 36, wherein R^3 is a hydrocarbon-based radical selected from the group consisting of alkyl, alkenyl, aryl, aralkyl, alkylaryl and alkenylaryl.

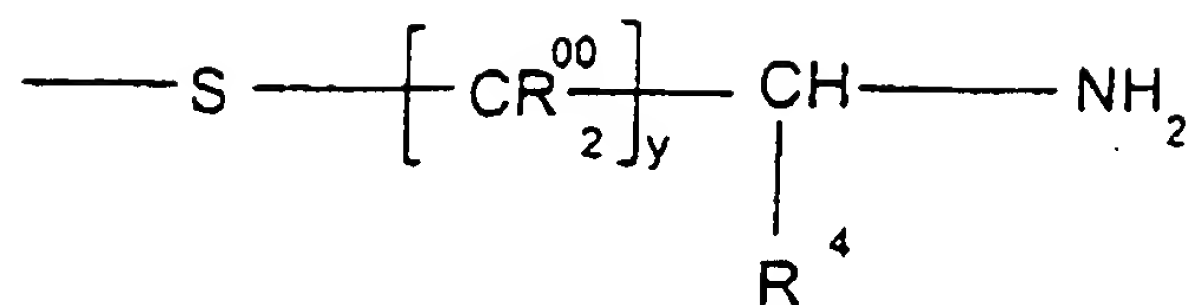
38. (Previously Presented) The collagenic peptide according to claim 36, wherein R^3 is a hydrocarbon-based radical selected from the group consisting of methyl and ethyl.

39. (Previously Presented) The collagenic peptide according to claim 36, wherein R^2 is an alkyl or an acyl group.

40. (Previously Presented) The collagenic peptide according to claim 36, wherein R^2 is sulfurated and/or aminated.

41. (Previously Presented) The collagenic peptide according to claim 36, wherein R^2 corresponds to formula (II) below:

FORMULA (II)

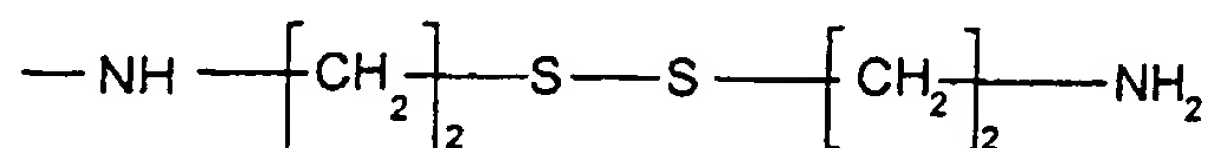


in which

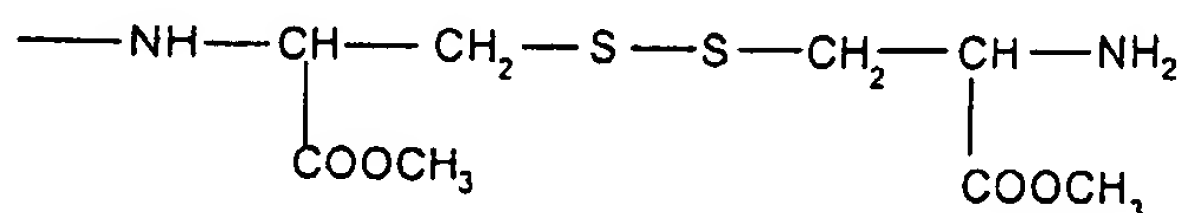
- y = 1 or 2;
- R⁰⁰ = H or CH₃; and
- R⁴ represents H or COOR³ with R³ corresponding to an aliphatic, aromatic or alicyclic radical.

42. (Previously Presented) The collagenic peptide according to claim 36, wherein the grafted mercaptoamino residues are chosen from the group consisting of :

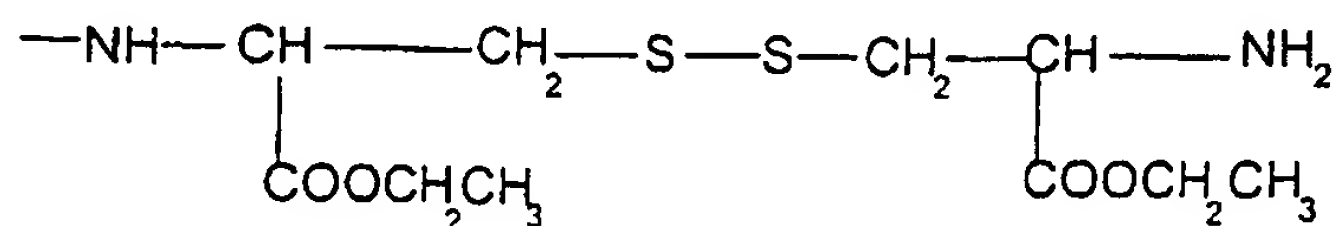
FORMULA (I.1)



FORMULA (I.2)

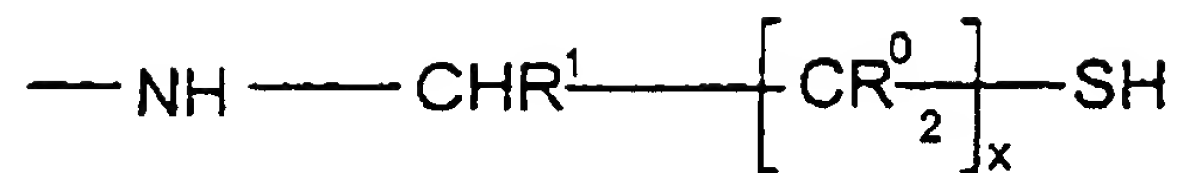


FORMULA (I.3)



43. (Previously Presented) The collagenic peptide according to claim 36, comprising grafted mercaptoamino residues, exclusively onto the carboxylic acids of the aspartic acids and glutamic acids, correspond to formula (I'):

FORMULA (I')



in which

- $x = 1$ or 2 ;
- $R^0 = \text{H}$ or CH_3 ;
- R^1 represents H or COOR^3 with R^3 corresponding to an aliphatic, aromatic or alicyclic radical;

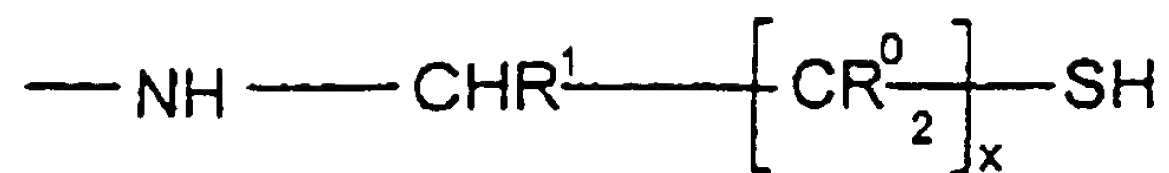
and being crosslinkable.

44. (Previously Presented) The collagenic peptide according to claim 43, wherein R^3 corresponds to an aliphatic, aromatic or alicyclic radical, hydrogen or a cation forming a salt with COO^- .

45. (Previously Presented) The collagenic peptide according to claim 44, wherein the cation is selected from the group consisting of Na^+ , K^+ and Li^+ .

46. (Previously Presented) A crosslinked collagenic peptide comprising collagenic chains linked together by disulfide bridges in which the constituent sulfur atoms belong to mercaptoamino residues that are exclusively grafted onto the aspartic acids and glutamic acids of the collagenic chains via amide bonds, and obtained from a crosslinkable collagenic peptide comprising grafted mercaptoamino residues, exclusively onto the carboxylic acids of the aspartic acids and glutamic acids, said collagenic peptide corresponding to formula (I'):

FORMULA (I')



in which

- $x = 1$ or 2 ;
- $R^0 = \text{H}$ or CH_3 ; and
- R^1 represents H or COOR^3 with R^3 corresponding to an aliphatic, aromatic or alicyclic radical.

47. (Previously Presented) The crosslinked collagenic peptide according to claim 46, wherein in FORMULA (I') R^3 corresponds to an aliphatic, aromatic or alicyclic radical, hydrogen, or a cation forming a salt with COO^- .

48. (Previously Presented) The crosslinked collagenic peptide according to claim 47, wherein the cation is selected from the group consisting of Na^+ , K^+ and Li^+ .

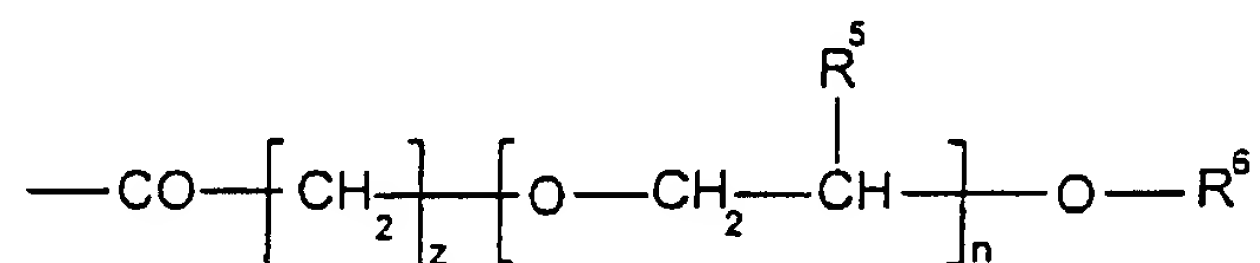
49. (Previously Presented) The collagenic peptide according to claim 35, comprising grafts G different from the mercaptoamino residues and attached to at least a fraction of the free amine moieties of the collagenic chain, via amide bonds, G being an acyl group comprising a hydrocarbon-based species.

50. (Previously Presented) The collagenic peptide according to claim 49, wherein the hydrocarbon-based species comprises hetero atoms.

51. (Previously Presented) The collagenic peptide according to claim 49, wherein the hydrocarbon-based species is an alkyl and/or alkenyl and/or alicyclic and/or aromatic group.

52. (Previously Presented) The collagenic peptide according to claim 49, wherein the hydrocarbon-based species is a group comprising an optionally unsaturated alkyl chain, containing from 1 to 22 carbon(s) or a group corresponding to the formula (III) below:

FORMULA (III)



in which

- R^5 is H or CH_3 ;
- R^6 is H or a linear or branched alkyl radical;
- z is 0, 1 or 2, and n is greater than 0 and is chosen such that the molecular weight of the polymer chain is between 100 and 15,000.

53. (Previously Presented) A process for obtaining a collagenic peptide soluble in aqueous media and/or in polar solvents and modified by grafting substituted thiol functions borne by mercaptoamino residues, comprising reacting exclusively the carboxylic functions of the aspartic acids and glutamic acids of a collagenic peptide with at least one precursor of a mercaptoamino residue in which the thiol function and the possible carboxylic function are blocked, said reaction being done in solution and in the presence of at least one grafting agent.

54. (Currently Amended) A process for preparing a crosslinkable collagenic peptide, modified by grafting free thiol functions borne by mercaptoamino residues, said process comprising:

- (a) ~~in~~-reacting exclusively the carboxylic functions of the aspartic acids and glutamic acids of a collagenic peptide with at least one precursor of a mercaptoamino residue whose thiol function and possible carboxylic function are blocked, said reaction being done in solution and in the presence of at least one grafting agent,
- (b) and ~~in~~-deprotecting the ~~mercapto~~ thiol function and possible carboxylic functions of the mercaptoamino residues grafted onto the modified collagenic peptides obtained in step (a).

55. (Currently Amended) A process for preparing a crosslinked collagenic peptide from a collagenic peptide modified by grafting free thiol functions borne by mercaptoamino residues, said process comprising:

- ~~(a')~~(a) ~~in~~-reacting exclusively the carboxylic functions of the aspartic acids and glutamic acids of a collagenic peptide with at least one precursor of a mercaptoamino residue whose thiol function and possible carboxylic function are blocked, said reaction being done in solution and in the presence of at least one grafting agent;
- ~~(b')~~(b) ~~in~~-deprotecting the ~~mercapto~~ thiol function and possible carboxylic functions of the mercaptoamino residues grafted onto the modified collagenic peptides obtained in step ~~(a')~~(a),
- ~~(c')~~(c) and ~~in~~-oxidizing the thiol functions of the crosslinkable modified collagenic

peptide obtained in step ~~(b')~~(b).

56. (Currently Amended) The process according to claim ~~53~~ 54, comprising an additional step of functionalization with grafts G that are different from the grafts attached to the carboxylic functions of the aspartic acids and glutamic acids, this additional step of functionalization consisting essentially in carrying out an acylation of at least ~~some~~ a fraction of the free amine functions of the collagenic chain, so as to attach thereto grafts G comprising a hydrocarbon-based species.

57. (Currently Amended) The process according to claim ~~54~~ 55, comprising an additional step of functionalization with grafts G that are different from the grafts attached to the carboxylic functions of the aspartic acids and glutamic acids, this additional step of functionalization consisting essentially in carrying out an acylation of at least a fraction of the free amine functions of the collagenic chain, so as to attach thereto grafts G comprising a hydrocarbon-based species.

58. (Previously Presented) A constituent of implants, prostheses, dressings, artificial tissues, a bioencapsulation system, a biocompatibilizing coating, suture threads, adhesives or surgical cements, or a cell culture support, comprising the collagenic peptide according to claim 35.

59. (Previously Presented) A constituent of implants, prostheses, dressings, artificial tissues, a bioencapsulation system, a biocompatibilizing coating, suture threads,

adhesives or surgical cements, or a cell culture support, comprising the crosslinked collagenic peptide according to claim 46.